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ABSTRACT

This volume outlines the requirements and content of a second-year course in allied health occupations education that is designed to provide students with a practical understanding of the work done by physical therapists and physical therapy assistants. Addressed in the individual units of the course are the following topics: the health team for physical therapy patients; anatomy and physiology; exercise; fatigue and stress; obesity; pain; light, cold, heat, hydrotherapy, sound, and surgical treatment; and motivation techniques to encourage patients to participate in rehabilitation and regain independence. The first part of the volume sets forth standards pertaining to the primary objective of the course; its content; its target audience, duration, and prerequisites; and course requirements. The bulk of the guide comprises a series of unit outlines in which behavioral objectives are presented together with an implementation plan and a list of lesson assignments. Concluding the volume is a sample student evaluation checklist. (MN)

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Middletown Public Schools

CURRICULUM STANDARDS

ALLIED HEALTH OCCUPATIONS II
PHYSICAL THERAPY AIDE COMPONENT
STUDENT LEARNING GUIDE

U.S. DEPARTMENT OF EDUCATION
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LEARNING PACKET - PHYSICAL THERAPY AIDE

The physical therapy aide helps prepare the patient for treatment & may remove and replace braces, splints, and slings and helps move the patient to and from the treatment center. The aide may also support the patient during treatment and assemble and take care of the equipment. Clerical duties, making appointments, and acting as a receptionist are also duties which may be performed by the aide.

This learning packet is to be used in conjunction with:

Texts: Simmers, Louise; Diversified Health Occupations; Delmar
Memmler/Wood; The Human Body in Health and Disease; Lippincott
Morrison, Cornet, Tether and Gratz; Human Physiology; Holt, Rinehart, Winston
Galdwell, Esther and Hegner, Barbara; Geriatrics; Delmar
Library and other Resource Books:
Wittman; Basic Sciences for Health Careers; McGraw-Hill

Film Strips: Physical Therapy; Prentice - Hall Media
(7 filmstrips, 7 cassettes, work plan)

Evaluation: Observation of laboratory techniques by clinical area supervisors
Unit Tests
Mid-term and final examinations

This course will provide approximately 50 classes of Allied Health Occupations II, Core Curriculum, before beginning study on Physical Therapy Aide, 15 classes of instruction on introduction to Physical Therapy (first semester), and 60 hours of clinical experience in the physical therapy area at Middlesex Memorial Hospital and/or other agencies, plus approximately 30 classes in the classroom during the second semester.

COURSE DESCRIPTION

COURSE TITLE : Allied Health Occupations II (Physical Therapy Aide Component)

OBJECTIVE : To provide the student with a practical study of the work done by physical therapists and physical therapy assistants and to acquire some basic laboratory skills.

DESIGNED FOR : A 12th grade student who wishes to examine possiblities of employment/further education in the physical therapy field.

CONTENT : Topics covered include:

1. Introduction of health team for physical therapy patients
2. Anatomy and Physiology: circulatory, muscular, nervous, and sensory systems
3. Exercise
4. Fatigue and Stress
5. Obesity
6. Pain
7. Treatment: light, cold, heat, hydrotherapy, sound, surgery
8. Motivation - rehabilitation and independence

DURATION : Two (2) semesters

PREREQUISITES: Allied Health I

COURSE REQUIREMENTS :

1. Students will bring required materials to class.
2. Homework assignments, quizzes, tests, examinations.
3. Students must wear uniform provided by the school for their clinical experience.

NOTE : The student will receive one-half credit for the first semester of Allied Health II. One full credit will be awarded for the work done in the second semester which includes approximately 50-60 hours of clinical experience in the physical therapy department of Middlesex Memorial Hospital and/or other area service agencies providing physical therapy.

PHYSICAL THERAPY / THERAPISTS

A. Introduction of Health Team for Physical Therapy Patients

The student will define and describe the work of each member of the health team.

MD's, Psychiatrist, Nurse, Occupational therapists, Prosthetists, Orthotists, Vocational Counselors, Social Workers, Physical Therapists

B. Work of a Physical Therapist

The student will:

1. define physical therapy.
2. list work skills.
   a. evaluate
   b. plan
   c. provide treatment
   d. instruct
   e. monitor
   f. communicate

C. Benefits of Physical Therapy

The student will list 6 benefits of P.T.

1. improve circulation
2. restore motion
3. relieve pain
4. prevent injury
5. strengthen muscles
6. correct deformities
7. promote healing

D. Reasons for Physical Therapy

The student will:

1. list 3 reasons for P.T.
   a. birth defects--to overcome
   b. injury
   c. illness
2. Goals
   a. rehabilitation
   b. achieve independence

Library Sources

Field Trip / Speaker

P.T. / O.T.

Family Medical Practice

Easter Seals Rehabilitation Center

II. ANATOMY AND PHYSIOLOGY

A. Circulatory System

The student will:

1. list the 3 kinds of blood vessels.
2. describe the walls of blood vessels and give reasons for their differences.
3. name the large main arteries and veins.
4. state the meaning of pulse.
5. explain what is meant by blood pressure.
6. describe 2 disorders of blood vessels.
7. review blood flow in the heart.
8. briefly describe 3 disorders of: blood vessels, aneurism, atherosclerosis, arteriosclerosis, ischemia, gangrene.
9. describe the effects of 6 drugs on circulation.
   a. epinepherine - acetylcholine
   b. histomine - antihistomine
   c. alcohol - nicotine
10. relate effects of exercise to:
    a. heart action
    b. electrical currents in muscles (heart)
    c. blood distribution
11. describe the lymphatic system: drainage pathway for tissue, fluid, and waste; lymph nodes - filters in lymphatic system.

B. Musculo-Skeletal System

The student will:

1. list 3 characteristics of muscle.
2. give a general description of a skeletal muscle.
   a. structure b. attachments
   b. function c. nerve connections

IMPLEMENTATION PLAN

Texts:

Memmler/Wood
The Human Body in Health and Disease
Lippincott

Morrison, Cornett, Tether, Gratz
Human Physiology
Holt, Rinehart, Winston

Films:

Coronet
Circulatory System

Caldwell, Esther & Hegner, Barbara
Health Assistant
Delmar

Caldwell & Hegner
Geriatrics
Delmar

Texts:

Memmler/Wood
The Human Body in Health and Disease
Lippincott

Morrison, Cornett, Tether, Gratz
Human Physiology

	IMPLEMENTATION PLAN
3. name and locate the following muscles: trapezius, biceps, triceps, deltoid, pectoralis major, intercostals, abdominus, diaphragm, pelvic, gluteous maximus, quadriceps, hamstring. 4. describe the action of muscles involved in a particular activity (throwing a ball, swimming, walking) 5. explain basis for scientific names of muscles. a. cite 3 specific examples b. state advantages of this 6. describe briefly 8 disorders of the musculoskeletal system, strains, sprains, muscular dystrophy, myasthenia gravis, myalgia, bursitis, flatfoot, myositis	Films: Cornett Skeletal System Muscular System
7. explain importance of correct posture. 8. explain use of bones and muscles as levers.	
C. The Nervous System The student will: 1. define neurology, nerve. 2. state the main function of the nervous system. 3. name the divisions of the nervous system. a. central b. peripheral 4. list the main parts of the brain and describe main functions of each. 5. identify 2 brain disorders. encephalitis, cerebral palsy, tumors, stroke, epilepsy, aphasia 6. describe the spinal cord and its function. 7. explain purpose of cerebrospinal fluid.	Texts: Memmler/Wood The Human Body in Health and Disease Lippincott Film: Cornett The Nervous System Morrison, Cornett, Tether, Gratz Human Physiology Holt Rinehart, Winston

9. state general function of cranial nerves.
10. state function of autonomic nervous system.
11. list the parts of the central nervous system.
12. define electroencephalography and describe procedure.

D. The Sensory System

The student will:

1. name the 7 senses:
   a. visual
   b. smell
   c. position and
   d. balance
   e. hearing
   f. touch (pressure, heat)
   g. taste
2. differenciate between general and special senses.

Eye
3. name the main parts of the eye.
4. using an illustration, show the pathway of light ray from outside, through eye, to brain.
5. identify characteristics of 3 eye disorders: conjunctivitis-infection, ophthalmia neonatorum, cataract

Ear
6. name the main parts of the ear.
7. using an illustration, trace the pattern of sound waves through the ear to brain.
8. identify 2 causes of deafness.
9. practice using special techniques used when speaking with elderly patients.
10. describe the semicircular canals and state their relationship to equilibrium.

Nose
11. describe the function of olfactory nerve.

Taste
12. on sketches of the tongue, locate and identify the taste buds. (sweet:tip, sour:sides, salty:tip & sides, bitter:back).

Texts:

Memmler/Wood

The Human Body in Health & Disease
Lippincott

Morrison, Cornett, Tether, Gratz

Human Physiology
Holt, Rinehart, Winston

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E. Pain

The student will:

1. define pain.
2. list causes of pain.
   a. physical
   b. mental distress
3. describe factors which determine the patient's reaction to pain.
4. discuss typical skeletal muscles reactions to pain.
5. describe the autonomic reactions to pain.
6. explain referred pain and give an example of its occurance.
7. describe measures to ease discomfort.
   a. safety to avoid pain
   b. change of position - relieve pressure
   c. dressings, rectal tubes, walking
   d. medication
8. comforting patients - recognize those who need.
   a. crying
   b. depressed
   c. hostile
   d. disorientated
   e. children
   f. fearful
9. discuss causes of headache.
   a. sinus infection
   b. eye irritations
   c. alcoholic binge
   d. loss of cerebrospinal fluid
   e. meningitis
10. discuss ways people cope with pain.
11. discuss drugs used to relieve pain.
    a. ataractic
    b. analgesic
    c. muscle relaxers
    d. blood vessel dilators
12. discuss surgical intervention - cordotomy.

IMPLEMENTATION PLAN

Story:

Donna K.
Principles & Practices of Nursing Care
McGraw Hill

Caldwell & Hegner
Geriatrics
Delmar

Texts:

Memmler/Wood
The Human Body in Health and Disease
Lippincott

Morrison, Cornett
Human Physiology
Holt, Rinehart, Winston

I. EXERCISE

A. Normal Muscular Activity

The student will:

1. name the principle groups of superficial muscles that are involved in serving in tennis; swimming.
2. list types of muscular activity.
   a. passive
   b. assistive
   c. active
   d. resistive
3. define massage.
4. list two reasons for using massage.
5. describe other muscles training methods.
   a. relaxation
   b. traction

B. The Geriatric Patient

The student will list the problems that are brought about by confinement or little activity.

V. FATIGUE

A. Fatigue in Normal Muscle Use

The student will:

1. explain the changes that occur in a muscle during contraction which leads to fatigue.
2. recognize signs of fatigue in patients - during rehabilitation.

B. Elderly Patient

The student will describe the reaction of the elderly patient to increased stress. Body fatigue leading to emotional problems.

Text:

Morrison, Cornett
Human Physiology
Holt, Rinehart, Winston

Caldwell & Hegner
Geriatrics
Delmar

The A-B-C's of Physical Therapy
Channing Bete Company

OBESITY

A. Incidence of Obesity with P.T. Patients

The student will list two reasons why the high incidence of obesity is a special problem for physical therapists and P.T. patients.

B. Nutrition and Diets

The student will:

1. review basic dietary requirements.
2. describe briefly the digestive process.
3. define enzymes and explain their function.
4. discuss changes to be made in diets of patients.
   a. obese
   b. obese undergoing rehabilitation

I. MOTIVATION

A. Factors

The student will:

1. define rehabilitation and describe its philisophy.
2. list ways in planning rehabilitation goals:
   a. with health team
   b. for a child
   c. for a young adult
   d. for the elderly
3. describe the purpose of the different kinds of health facilities for rehabilitation.

B. Adaptation

The student will:

1. list ways to assist the elderly in rehabilitation and becoming as independent as possible.
2. discuss social rehabilitation with special consideration for geriatric patients.

Caldwell & Hegner
Geriatrics
Delmar

Memmler/Wood
Human Body in Health and Disease
Lippincott

Morrison, Cornett
Human Physiology
Holt, Rinehart, Winston

TREATMENT

A. Ambulation

The student will:

1. check the correct measurement of patients for canes, crutches, and walkers.
2. ambulate a patient with the following crutch gaits: 4-pt., 3-pt., 2-pt.
   swing to; swing through
3. ambulate a patient using a:
   a. cane
   b. walker

B. Methods of Treatment

The student will:

1. define hydrotherapy.
2. discuss uses of hydrotherapy.
3. define moist cold, dry cold.
4. safely apply an ice bag, ice collar, or ice packs.
5. define moist heat, dry heat.
6. state safety factors in application of heat.
7. safely apply a hot water bottle, hot compresses, and an aquamatic pad.
8. administer a sitz bath.
9. describe a whirlpool bath, contrast bath, Hubbard bath.
10. discuss the benefits of swimming.
11. define diathermy - shortwave, microwave, ultrasound.
12. describe infrared heating; ultraviolet rays.
13. discuss surgical prodedures used in treatment of P.T. patients.

IMPLEMENTATION PLAN

Text:

Simmers, Louise
Diversified Health Occupations
Delmar

Film Strips - Cassettes:

Physical Therapy - Prentice-Hall Media

PHYSICAL THERAPY

ASSIGNMENTS

I. INTRODUCTION TO PHYSICAL THERAPY

A. Health Team

1. Write ½ page on each of the members of the health team (c through h) explaining how their work relates to the physical therapy patient.
2. Write two page reports on each of these diseases: muscular dystrophy, multiple sclerosis, cerebral palsy.

   Describe disease, list causes, tell how diagnosis is made, and about new research being done.

B. Circulatory System

1. Read HUMAN PHYSIOLOGY: page 342-350.
2. Read HUMAN BODY IN HEALTH & DISEASE: p. 157-166 and p. 182-185.
   Write out answers to questions - p. 167; # 1, 2, 3, 6, 11-16, 18, 20.
   " " " " " p. 187; # 1, 2, 5-15.
3. Read GERIATRICS: p. 177 - Group A - # 1-8.

C. Muscular System

1. Read HUMAN BODY: p. 106-114.
   Questions: p. 115; #11-22.
2. Read HUMAN PHYSIOLOGY: p. 63, 79, 93-101.
   Questions: p. 102 - Group A - #1-10; Group B - #2, 5, 6.
3. Read Health Assistant Unit 33: p. 231. Do vocabulary.
4. Read GERIATRICS: p. 24-28.

D. Nervous System

1. Using library resources, write a 1-2 page paper explaining: What is a neuological assessment? What does it include? Who does it? How is it used?
2. Read GERIATRICS: p. 23, 129, 137-140, 143-153.
   Questions: p. 153 - Review A and B.
3. Read HUMAN BODY: p. 117-139.
   Questions: p. 139; #1-4, 9-15, 19, 20.

4. Read HUMAN PHYSIOLOGY: p. 103-107, 118-123.
Questions: p. 117; #2-3 .
Vocabulary: p. 138.
Questions: p. 139; # 4, 6.

Use both tests for this information: HUMAN BODY and HUMANN PHYSIOLOGY.

. SENSORY SYSTEM

1. Read GERIATRICS: p. 129-137.
Questions: p. 140.

2. Read HUMAN BODY: 141-154.
Questions: p. 155; #1-13.

3. Read HUMAN PHYSIOLOGY: p. 169-181.
Questions: p. 182 - Group B - #1-5.

. EXERCISE

1. Read GERIATRICS: p. 201-212.
Questions: p. 213.

2. Read HUMAN PHYSIOLOGY: p. 87-91 and p. 93-101.
Vocabulary: p. 102.
Questions: p. 91; # 8 and 9.

. FATIGUE

Read HUMAN PHYSIOLOGY: p. 86. Questions: p. 92; #3 and 6.

. OBESITY

1. Read GERIATRICS: p. 100-106.
Questions: p. 106 - Group A,

2. Read HUMAN BODY: p. 205-206 and 211.
Questions: p. 213; #1-16.

3. Read HUMAN PHYSIOLOGY: p. 183-199.
Questions: p. 199 - Group B - # 2, 4, 5.

VI. MOTIVATION

Read GERIATRICS: p. 58-63, 64-72, 77-82 and 173-176
Questions: p. 63
Review Group A: p. 72
Review Group A, B and C: p. 82
Review Group A, B, C, and D - p. 177 and 178

PAIN

1. Read duplicated material by D. Story.
   Question and exercise sheets as assigned by teacher.
2. Read GERIATRICS: p. 162-164.
   Review questions: Group A and B: p. 164 and 165.
3. Read HUMAN BODY: p. 153-155.
   Questions: p. 155; # 1-13.
4. Read HUMAN PHYSIOLOGY: p. 126.

PHYSICAL THERAPY AIDE

Physical Therapy Department
Middlesex Memorial Hospital

Student _____

Tasks		Training Time Spent	Date Performed	On-site Trainer Signatur
Receptionist Duties:	Greets patients			
	Relays messages promptly and accurately			
Transportation/ Transfer Duties:	Transports patients in a safe manner			
	Transfers patient from wheelchair, stretcher, bed & treatment area using good body mechanics			
Exercise:	Assists with patient support and transfer, guarding appropriately			
	Assists with mat exercises			
	Assists with ambulation exercises with use of walker			
	Assists with crutch walking			
	Performs proper crutch adjustment			
	Assists with use of parallel bars			
	Assists with bicycle riding			
	Assists with weight programs			
	Handles and cares for weights properly			
Application of HEAT/COLD and related Treatments				
	Positions patient comfortably with area to be treated accessible			
	Drapes patient for modesty and comfort			

PHYSICAL THERAPY AIDE

Page 2 - Tasks

	Training Time Spent	Date Performed	On-site Trainer Signature
HEAT/COLD & Related Treatments Makes and applies ice packs correctly			
Makes and applies hot packs correctly			
Applies parafin when indicated			